

Work Order ID 124532

Thursday, September 11, 2014 3:31:32 PM

124532

POSITIVE
RECALL

PRELIMINARY ISSUE

Page 1

Item ID: D5153-1

Revision ID: PRELIM

Item Name: Radius Block

Start Date: 9/11/2014 Start Qty: 36.00

Required Date: 9/11/2014 Req'd Qty: 36.00

Reference:

Accept

N900040100

DAS
9
9-89

Setup

Stop

NS1

NS2

Cust Item ID:

Customer:

Approvals: Process Plan: MLJ

Date: 14-09-11

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run

Start

NR1

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr

Revision Nbr

D5153

Rev A

DAS
9

110

9-89

0.00

110

Waterjet

Memo

0.00

FLOW CNC Waterjet

(40)

DAS
23
9-89

12/14/09/12

120

QC2- Inspect parts off machine FAI/FAIB

0.00

120

QC

Memo

0.00

Quality Control

(40)

DAS
23
9-89

12/14/09/12

130

Manufacture as per dwg

0.00

130

Mill Conv

Memo

0.00

Conventional Milling Machine

MILL CHAMFER AS PER DWG

(39)

1

J.L.L. / JPC
14/09/16

Work Order ID 124532

124532

PRELIMINARY ISSUE

Page 2

Thursday, September 11, 2014 3:31:32 PM

Item ID: D5153-1 Accept *N900040100* Setup Start *NS1*

Revision ID: PRELIM Stop *NS2*

Item Name: Radius Block

Start Date: 9/11/2014 Start Qty: 36.00 *36* Cust Item ID:

Required Date: 9/11/2014 Req'd Qty: 36.00 *36* Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

140

QC2- Inspect parts off machine FAI/FAIB

0.00

140

QC

Memo

0.00

Quality Control

39

1

J.C.-L/BFL
14/09/16

150

QC8- Inspect parts - second check

0.00

150

QC

Memo

0.00

Quality Control

POSITIVE RECALL

EFFECTIVE MLS AUTH 14-09-11

RELEASED 9 DATE 15-07-09

9-89



few A

RD5319

DAS
38
9-89

14-09-16

160

Identify as per dwg & Stock Location: 84-150

0.00

160

Packaging

Memo

0.00

Packaging

JUL 13 2015

MLS

14-10-02 →

Work Order ID 124532

Thursday, September 11, 2014 3:31:32 PM

124532

PRELIMINARY ISSUE

Page 3

Item ID: D5153-1

Accept

N900040100

Setup

Start

NS1

Revision ID: PRELIM

Item Name: Radius Block

Stop

NS2

Start Date: 9/11/2014 Start Qty: 36.00

36

Cust Item ID:

Required Date: 9/11/2014 Req'd Qty: 36.00

36

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run

Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

170

QC21- Final Inspection - Work Order Release

0.00

170

QC

Memo

0.00

Quality Control

MLJ

JUL 13 2015

Picklist Print

Thursday, September 11, 2014 3:31:38 PM

PRELIMINARY ISSUE

Page 1

Work Order ID: 124532

124532

Parent Item: D5153-1

D5153-1

Parent Item Name: Radius Block

Start Date: 9/11/2014

Required Date: 9/11/2014

Start Qty: 36.00

Required Qty: 36.00

Comments: IPP REV:A 14.09.04 NEW ISSUE DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M304S14GA		Purchased		No			sf	191.2500		1			
M304S14GA									**				
304SS sheet .080													

DAS
23
9-89

DC 14/09/12

Location

Loc Qty

Loc Code

MAT020

191.25

M126073

63.25

M129972

128

(5)

DQA: _____ Date: 14/04/16

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

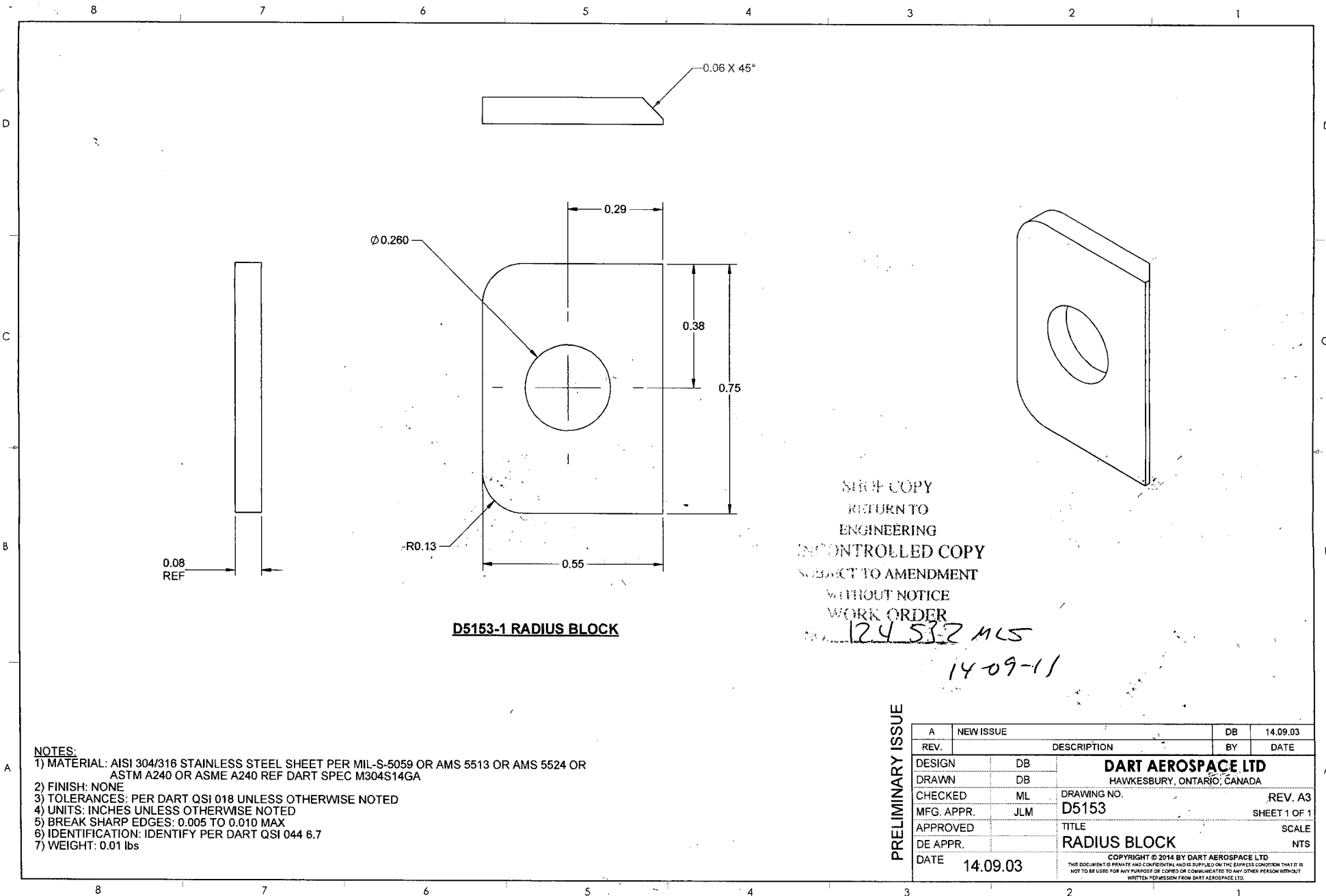
Work Order update only ☐

Work Order: <u>124 532</u> Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☒</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☒	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐															
Machining ☒	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐															
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐															
Large Fab ☐	Composite ☐	Supplier ☐																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design			<u>1</u>	<u>Piece moved in vice and bent</u>					
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence
☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☒ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge		
☐ Pressure/Forced Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other		



D5153-1 RADIUS BLOCK

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

124 532 MLS
14-09-11

PRELIMINARY ISSUE

A		NEW ISSUE		DB	14.09.03
REV.	DESCRIPTION			BY	DATE
DESIGN	DB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
DRAWN	DB				
CHECKED	ML	DRAWING NO.	REV. A		
MFG. APPR.	JLM	D5153	SHEET 1 OF		
APPROVED		TITLE	SCALE		
DE APPR.		RADIUS BLOCK	NT		
DATE	14.09.03	COPYRIGHT © 2014 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.			

PRELIMINARY ISSUE

DQA:

Date: 14/09/16

QA Closed: RPN

Date: 15/07/15

WORK ORDER NON-CONFORMANCE / UPDATE

Work Order update only ☐

Work Order: <u>124 532</u>	DISPOSITION Rework ☐ Scrap ☒ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS			
Part No. <u>D5153-1</u>		Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐
NCR No. <u>15-5193</u>		Machining ☒	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐
		Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐
		Large Fab ☐	Composite ☐	Supplier ☐	

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design	14.09.17	130	1	PART SLIP IN CLAMPS	A.P. 14.09.17	SCRAP. ACCORDING TO QSI 042	A.P. 14.09.17	<i>[Signature]</i> 15/09/17	<i>[Signature]</i> 14/09/17
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☒ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge	☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Purchase Order ID/ Curr Type	Line Nbr/ Insp Req	Project ID	Reference/ Description/ Cert Std	PO U/M / Stock U/M	Required Date Required Qty	Recv Date/ Recv Emp	Recv Qty (PO U/M)	Cost Per Unit/ Recv Value	Inspected Qty/ Rejected Qty (PO U/M)	MRB Qty/ MRB Reject Qty	Book Amt
VendorID\Vendor Name		VC-RYS001 Ryerson Canada									
PO20192	8		M6061T6B1.500X01. f 500		6/19/2013	6/20/2013	36.0000	\$4.72	0.0000	0	\$169.96
CAD	No		6061-T6 Bar 1.50 x f 1.50 M126075		36.0000	DESJ02		\$169.96	0.0000	0	
	9		M6061T6B1.500X04. f 000		6/19/2013	6/20/2013	24.0000	\$12.59	0.0000	0	\$302.15
	No		6061T6 Bar 1.500 x f 4.00 M126075		24.0000	DESJ02		\$302.15	0.0000	0	
	10		M6061T6B2.000X01. f 250		6/19/2013	6/20/2013	12.0000	\$5.25	0.0000	0	\$62.95
	No		6061-T6 Bar 2.00 x f 1.25 M126075		12.0000	DESJ02		\$62.95	0.0000	0	
	11		M6061T6B30000X01 f .500		6/19/2013	6/20/2013	12.0000	\$9.44	0.0000	0	\$113.31
	No		6061-T6 Bar 3.00 x f 1.50 M126075		12.0000	DESJ02		\$113.31	0.0000	0	
	12		M6061T6S.063 sf		6/19/2013	6/20/2013	336.0000	\$1.89	0.0000	0	\$633.82
	No		6061-T6 .063 Sheet sf M126075		320.0000	DESJ02		\$633.82	0.0000	0	
	13		M6061T6S.125 sf		6/19/2013	6/20/2013	32.0000	\$3.91	0.0000	0	\$125.22
	No		6061-T6 .125 Sheet sf M126075		32.0000	DESJ02		\$125.22	0.0000	0	
	14		M304S11GA sf		6/19/2013	6/20/2013	192.0000	\$7.29	0.0000	0	\$1,400.45
	No		304/316 0.125 Sheet sf M126075		192.0000	DESJ02		\$1,400.45	0.0000	0	
	15		M304S14GA sf		6/19/2013	6/20/2013	128.0000	\$4.46	0.0000	0	\$570.98
	No		304SS sheet .080 sf M126075		128.0000	DESJ02		\$570.98	0.0000	0	

Total Received Quantity:	952.0000
Total Qty to Inspect (PO U/M):	0.0000
Total Reject Quantity:	0.0000
Total Receipt Value:	\$4,607.24
Total Balance Due Quantity:	0.0000

RYERSON

Shipping Order / Bordereau d'expédition

MO #
200 RUE DU CHEMINOT
200 RUE DU CHEMINOT
Phone/Tel (450) 424-0153

VAUDREUIL-DORION QC J7V 5V5
VAUDREUIL QC J7V 5V5

Page 4 de 5 06/19/13 17:54 CST
SO AP

S.O. / Bordereau d'expédition

X6-310685

P.O. / Bon de commande

20192

Sold to/Facteur a: Ship to/Expédier a:
DART AEROSPACE LTD. DART AEROSPACE LTD.
1270, ABERDEEN STREET 1270, ABERDEEN STREET

HAWKESBURY ON K6A 1K7 HAWKESBURY ON K6A 1K7 Phone/Tel (613) 632-3336

Line /# de ligne Item Description Qty Shipped/Qté expédiée B.O.Qty/En souffrance

10 5480-6948 FEU AL TN QQA250/11 6061T6 .125 X 48 X 96
Tariff Code / Code tarifaire: 7606.12.00.31
Qty Comm: 1 Order Qty/Qté commandée 1 UEA Pcs: 1 1.00 UEA
(1 -SKID 56)
Cntrl: X6FM0236 C: 508189 T: 355883 1 pcs Loc EXP Wt: 1
*** Filled by Initials/Rempli par initiale: DA

11 7427-6403 TOLE 304 FINI #2B .120 X 48 X 96
Tariff Code / Code tarifaire: 7219.32.00.11
Qty Comm: 6 Order Qty/Qté commandée 6 UEA Pcs: 6 6.00 UEA
(0 -PK/WI 968 LINE 10)
Cntrl: X6FM5029 C: H2T5 T: 02H2T5C 5 pcs Loc EXP Wt: 5
Cntrl: X6FM5030 C: H2T5 T: 02H2T5C 1 pcs Loc EXP Wt: 1
*** Filled by Initials/Rempli par initiale: DA

12 7426-7949 TOLE 304 FINI #2B .075 X 48 X 96
Tariff Code / Code tarifaire: 7219.33.00.11
Qty Comm: 4 Order Qty/Qté commandée 4 UEA Pcs: 4 4.00 UEA
(0 -PK/WI 404 LINE 10)
Cntrl: X6FL6927 C: F3N7 T: 02F3N7C 2 pcs Loc EXP Wt: 2
Cntrl: X6FM3780 C: H4J7 T: 04H4J7B 2 pcs Loc EXP Wt: 2
*** Filled by Initials/Rempli par initiale: DA

Customer/Driver Instructions / Commentaires du client/chauffeur:
HEURES D'OUVERTURE 7H @ 16H LUN @ VEND DECHARGEMENT AU CHARIOT ELEVATEUR AVANT COTE CHAUFFEUR
CFC ET MTR REQUIS A LA LIVRAISON

Packing List/Bordereau de marchandises

Received by/ Reçu Par: Date:
Acceptance of goods constitutes acceptance of our Terms and Conditions, available on our website at www.Ryerson.com,
or from your sales representative, or by calling (800) 268-2680.
L'acceptation des marchandises constitue un consentement à nos termes et conditions, qui sont disponibles
sur notre site web www.ryerson.com, ou par votre représentant interne, ou par téléphone (800) 268-2680.

Alloys of Aluminum, Copper, Steel **Caution:**

Processing of this material may present a physical and or health hazard. See material safety data sheets for further information

Les alliages d'aluminium, de cuivre, d'acier **Avertissement:**
le Traitement de ce matériel peut présenter un risque physique et ou
pour la santé. Pour de plus ample information voir les fiches.



METALLURGICAL TEST REPORT

NORTH AMERICAN STAINLESS
6870 HIGHWAY 42 EAST
GHENT, KY 41045

6870 HIGHWAY 42 EAST

Certificate: 840712 3 Mail To:
RYERSON CANADA, INC.
Customer: 007035 510 C/O X6 - RYERSON VAUDREUIL
200 CHEMINOT STREET
VAUDREUIL, QC J7V5V5

Ship To:
RYERSON CANADA, INC.
C/O X6 - RYERSON VAUDREUIL
200 CHEMINOT STREET
VAUDREUIL, QC J7V5V5

Date: 6/03/2013 Page: 1

Steel: 304

Finish: 2B

Your Order: 732632

NAS Order: PN 0026706 01

Corrosion: ASTM A262/10 A; 180Bend-OK

PRODUCT DESCRIPTION:

STAINLESS STEEL COIL, C.R. ANNEALED & PICKLED; UNS 30400
ASTM A240/12a, A480/12, A666/10; ASME SA240/11a, SA480/11a, SA666/11a
CHEM ONLY ON FOLLOWING ASTM: A276/10, A479/11, A484/11, A312/12a
CHEM ONLY ON FOLLOWING ASME: SA312/11a, SA479/11a
AMS 5513J XMRK; MIL-S-5059D AMEND3 (X CROWN MEAS)
NACE MR0175/ISO 15156-3:2003 A, MR0103/07; QQS766D-A X MAG PERM
MIN. SOLUTION ANNEAL TEMP 1900F, WATER QUENCHED

REMARKS:

Mat'l is Free of Mercury Contamination. No weld repairs.
EN 10204:2004 3.1; RoHS 1 & 2 Compliant
Material is Free of Radioactive Contamination
NAS Steel Making Process: EAF, AOD, & Cont. Casting
Product Mfg. by a Quality Mgt. Sys. in Conf. w/ISO 9001
*Melted & Manufactured in the USA; Mat'l is DFARS Compliant
*Melted & Manufactured in the USA; Mat'l is DFARS Compliant

Product Id	Coil #	Skid # Thickness	Width	Weight	Length	Mark	Pieces	Commodity Code
02H2T5 C	02H2T5 C	1163	48.0000	20,810	COIL	6	1	74275690

CHEMICAL ANALYSIS

CM(Country of Melt) ES(Spain) US(United States) ZA(South Africa) JP(Japan)

Chemical Analysis per ASTM A751/08

HEAT	CM	C %	CR %	CU %	MN %	MO %	N %	NI %	P %	S %
H2T5	US	.0485	18.0845	.4700	1.6915	.3400	.0527	8.0050	.0320	.0010
SI %										
.2970										

MECHANICAL PROPERTIES

Product Id#	Coil #	1 d	UTS	.2% YS	ELONG	Hard	Tail
		o i	KSI	KSI	%-2"	RB	Hard
02H2T5 C	02H2T5 C	F T	93.76	45.11	52.18	86.00	87.00

NAS hereby certifies that the analysis on this certification is correct. Based upon the results and the accuracy of the test methods used, the material meets the specifications stated. These results relate only to the items tested and this report cannot be reproduced, except in its entirety, without the written approval of NAS.

Technical
Dept. Mgr.

ERIC HESS

6/03/2013

DART AEROSPACE LTD. P.O. - 20192 S.O. - 310685

HYERSON

6/19/2013 6:00:13 PM PAGE 17/023

Fax Server



METALLURGICAL TEST REPORT

NORTH AMERICAN STAINLESS
6870 HIGHWAY 42 EAST
GHENT, KY 41045

6870 HIGHWAY 42 EAST

Certificate: 825590 2 Mail To:
RYERSON CANADA, INC.
Customer: 007035 510 C/O X6 - RYERSON VAUDREUIL
200 CHEMINOT STREET
VAUDREUIL, QC J7V5V5

Ship To:
RYERSON CANADA, INC.
C/O X6 - RYERSON VAUDREUIL
200 CHEMINOT STREET
VAUDREUIL, QC J7V5V5

Date: 4/09/2013 Page: 1

Steel: 304

Finish: 2B

Your Order: 727892

NAS Order: PN 0024225 01

Corrosion: ASTM A262/02aE;180Bend-OK

PRODUCT DESCRIPTION:

STAINLESS STEEL COIL, C.R. ANNEALED & PICKLED; UNS 30400
ASTM A240/11b, A480/11b, A666/10; ASME SA240/11a, SA480/11a, SA666/11a
CHEM ONLY ON FOLLOWING ASTM: A276/10, A479/11, A484/11, A312/11
CHEM ONLY ON FOLLOWING ASME: SA312/11, SA479/11
AMS 5513J XMRK; MIL-S-5059D AMEND3 (X CROWN MEAS)
NACE MR0175/ISO 15156-3:2003 A, MR0103/07; QQS765D-A X MAG PERM
MIN. SOLUTION ANNEAL TEMP 1900F, WATER QUENCHED

REMARKS:

Mat'l is Free of Mercury Contamination. No weld repairs.
EN 10204:2004 3.1; RoHS 1 & 2 Compliant
Material is Free of Radioactive Contamination
NAS Steel Making Process: EAF, AOD, & Cont. Casting
Product Mfg. by a Quality Mgt. Sys. in Conf. w/ISO 9001
*Melted & Manufactured in the USA; Mat'l is DFARS Compliant
*Melted & Manufactured in the USA; Mat'l is DFARS Compliant

007035

Product Id	Coil #	Skid #	Thickness	Width	Weight	Length	Mark	Pieces	Commodity Code
02F3N7 C	02F3N7 C		0725	48.0000	16,280	COIL	6	1	74266941

CHEMICAL ANALYSIS CM(Country of Melt) ES(Spain) US(United States) ZA(South Africa) JP(Japan) Chemical Analysis per ASTM A751/08

HEAT	CM	C %	CR %	CU %	MN %	MO %	N %	NI %	P %	S %
F3N7	US	.0578	18.1790	.4115	1.6125	.3825	.0547	8.0015	.0350	.0010
SI %										
.4400										

MECHANICAL PROPERTIES

Product Id#	Coil #	1 d	UTS	.2% YS	ELONG	Hard	Tail
		o i	KSI	KSI	%-2"	RB	Hard
		c r					
02F3N7 C	02F3N7 C	F T	97.77	47.62	48.96	86.50	88.50

NAS hereby certifies that the analysis on this certification is correct. Based upon the results and the accuracy of the test methods used, the material meets the specifications stated. These results relate only to the items tested and this report cannot be reproduced, except in its entirety, without the written approval of NAS.

Technical
Dept. Mgr.

ERIC HESS

4/09/2013

FAX DEIVEL

10/02/03

PAGE

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RYERSON

P.O. - 20192 S.O. - 310685 DART AEROSPACE LTD.



METALLURGICAL TEST REPORT

NORTH AMERICAN STAINLESS
6870 HIGHWAY 42 EAST
GHENT, KY 41045

6870 HIGHWAY 42 EAST

Certificate: 835228 3
Customer: 007035 016
Mail To:
RYERSON CANADA INC.
200 CHEMINOT STREET
VAUDREUIL, QC J7V5V5

Ship To:
RYERSON CANADA INC.
200 CHEMINOT STREET
VAUDREUIL, QC J7V5V5

Date: 5/13/2013 Page: 1

Steel: 304

Finish: 2B

Your Order: 733888

NAS Order: DS 0003226 04

Corrosion: ASTM A262/10 A; 180Bend-OK

PRODUCT DESCRIPTION:

STAINLESS STEEL COIL, C.R. ANNEALED & PICKLED; UNS 30400
ASTM A240/12a, A480/12, A666/10; ASME SA240/11a, SA480/11a, SA666/11a
CHEM ONLY ON FOLLOWING ASTM: A276/10, A479/11, A484/11, A312/12a
CHEM ONLY ON FOLLOWING ASME: SA312/11a, SA479/11a
AMS 5513J XMRK; MIL-S-5059D AMEND3 (X CROWN MEAS)
NACE MR0175/ISO 15156-3:2003 A, MR0103/07; QCS766D-A X MAG PERM
MIN. SOLUTION ANNEAL TEMP 1900F, WATER QUENCHED

REMARKS:

Mat'l is Free of Mercury Contamination. No weld repairs.
EN 10204:2004 3.1; RoHS 1 & 2 Compliant
Material is Free of Radioactive Contamination
NAS Steel Making Process: EAF, AOD, & Cont. Casting
Product Mfg. by a Quality Mgt. Sys. in Conf. w/ISO 9001
*Melted & Manufactured in the USA; Mat'l is DFARS Compliant

Product Id	Coil #	Skid #	Thickness	Width	Weight	Length	Mark	Pieces	Commodity Code
04H4J7 B	04H4J7 B		0.0725	48.0000	20,890	COIL	1	1	74266941

CHEMICAL ANALYSIS

CM	C %	CR %	CU %	MN %	MO %	N %	NI %	P %	S %
US	.0518	18.0495	.4210	1.7310	.3395	.0548	8.0765	.0330	.0030
SI %									
.2705									

MECHANICAL PROPERTIES

Product Id#	Coil #	UTS KSI	.2% YS KSI	ELONG %-2"	Hard RB	Tail Hard
04H4J7 B	04H4J7 B	FT	98.07	48.18	49.09	87.50

NAS hereby certifies that the analysis on this certification is correct. Based upon the results and the accuracy of the test methods used, the material meets the specifications stated. These results relate only to the items tested and this report cannot be reproduced, except in its entirety, without the written approval of NAS.

Technical
Dept. Mgr.

ERIC HESS

5/13/2013

RYERSON
DART AEROSPACE LTD.
P.O. - 20192
S.O. - 310685

6/19/2013 6:00:13 PM
PAGE 19/023
Fax Server



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO20192**

Purchase Order Date 6/14/2013

PO Print Date 6/14/2013

Page Number 5 of 5

Order From :
RYERSON
200 DU CHEMINOT
VAUDREUIL, QUEBEC J7V 5V5

VC-RYS001

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name
Vendor Phone 450-424-0153

Ship To Contact
Ship To Phone

Ship Via: Yours ppd
Ship Acct:

Buyer Chantal Lavoie
Customer POID
Customer Tax # 10127-2607
Terms Net 30
Currency CAD
FOB Destination-Collect

Line Total: \$129.83

14	M304S11GA	304/316 0.125 Sheet	6/19/2013	192.00		\$1,452.00
			Yes	sf		
	MATERIAL: AISI 304/316 SS SHEET ANNEALED AS PER MIL-S-5059 OR AMS 5513 (304) OR AMS 5524 (316) OR ASTM A240 OR ASME SA240		6/19/2013			

Line Total: \$1,452.00

15	M304S14GA	304SS sheet .080	6/19/2013	128.00		\$592.00
			Yes	sf		
	AS ABOVE		6/19/2013			

Line Total: \$592.00

PO Total: \$4,774.89

Note: Pricing listed above is as per contract agreement between Dart Aerospace and the respective manufacturer.
No substitution or deviation without consent.
Certificate of Conformity or Material Certification required ☒ YES ☐ NO

Change Nbr: 2

Change Date: 6/14/2013

8 7 6 5 4 3 2 1

D

C

B

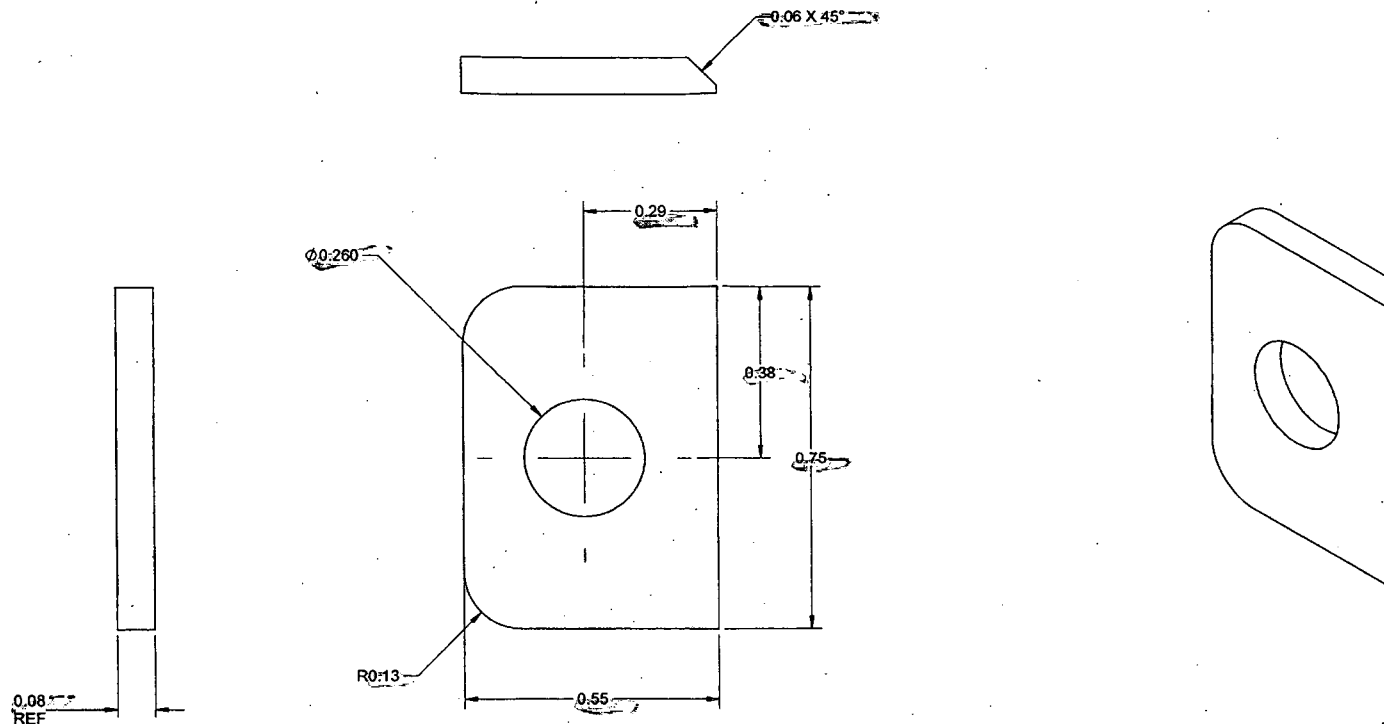
A

D

C

B

A



D5153-1 RADIUS BLOCK

NOTES:

- 1) MATERIAL: AISI 304/316 STAINLESS STEEL SHEET PER MIL-S-5059 OR AMS 5513 OR AMS 5524 OR ASTM A240 OR ASME SA240 REF: DART SPEC M304S14GA
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER DART QSI 044 6.7
- 7) WEIGHT: 0.01 lbs

RELEASED
2014-10-08

APPROVED

A		NEW ISSUE		DB	14.09.03
REV.		DESCRIPTION			BY DATE
DESIGN	DB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
DRAWN	DB				
CHECKED	AP	DRAWING NO.		REV. A	
MFG. APPR.	JLM	D5153		SHEET 1 OF 1	
APPROVED	MP	TITLE		SCALE	
DE APPR.	DS	RADIUS BLOCK		NTS	
DATE		14.09.03		COPYRIGHT © 2014 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

8 7 6 5 4 3 2 1